REMARKS/ARGUMENTS

The Office Action objected to the drawings; rejected claims 1, 24-29, 31 and 37 under 35 U.S.C. 103(a) as being unpatentable over Qian et al. (U.S. 6,447,636) in view of Mohn et al. (U.S. 6,401,652); rejected claims 2-16, 21-23 and 32-34 further in view of Ishizuka et al. (U.S. 5,531,834); allowed claims 30 and 38; and, objected to claims 35 and 36.

1. With regard to the drawing objection, Applicants have amended the drawings to overcome the Examiner's objection. Specifically, Applicants added the thickness 252T and the width 252W to the helical electrode 252 of Fig. 1B. Applicants further added the multiple turn coils for the coils 252 of Fig. 1B, coils 262 of Fig. 1C, and coils 282 of Fig. 1E. No new matter has been added.

2. Regarding section 35 U.S.C 103(a) rejection, Applicants submit that Mohn et al. discloses a helical electrode comprising a *flattened* cross-sectional shape (col. 2, lines 59-61, Figs. 1-12). In contrast, the helical electrode of the present invention comprises a *stacked* cross-sectional shape.

Having a flattened cross-sectional shape, the concentric spirally-connected ribbon-shape coils of Mohn et al., form only one layer against the chamber wall surface. The coils of Mohn et al. can also be considered to be stacked in the direction of the thickness, the smaller dimension of the coil cross-section. However, it is more likely for these coils to be considered as flattened coils instead of stacked coils since the thickness is much smaller than the width and the coils are normally viewed as spreading out to cover the whole surface of the chamber wall.

Amendments to the Drawings:

The attached sheet of drawings includes changes to Figs. 1B, 1C and 1E. This sheet, which includes Figs. 1-7, replaces the original sheet including Figs. 1-7. In Fig. 1B, the definitions of coil width 252W and coil thickness 252T of the helical ribbon 252 have been added. In Figs. 1B, 1C and 1E, the helical ribbon coils are amended to show multiple turns.

Attachment: Replacement sheet

Annotated sheet showing changes

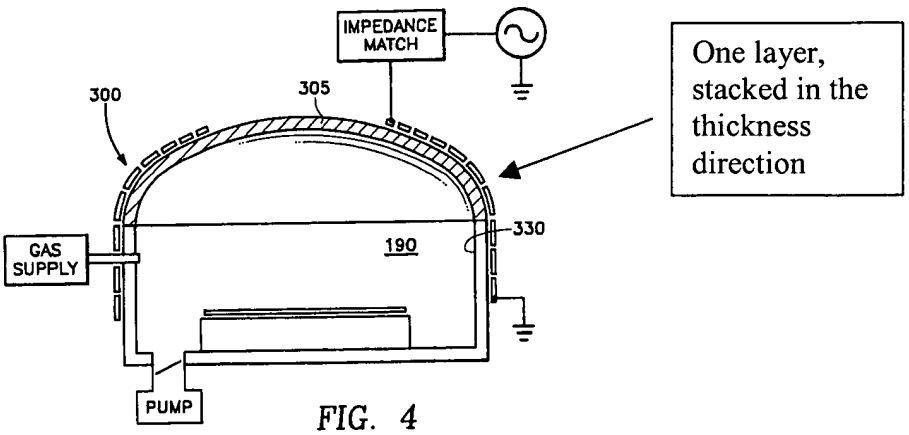

FIG. 4

Mohn et al.'s helical electrode configuration

In contrast, the coils of the present invention have a *stacked* cross-sectional shape, meaning the coils form multiple layers against the chamber wall surface. Independent claims 30, 31, 32, 37 and 37 of the present invention state: *said width being in a dimension facing an adjacent coil,* claim 37, lines 5-6; claim 38, lines 5-6; *the width lying in a plane that faces another of said plurality of flat concentric spiral coils,* claim 30, line 7; *where a width corresponds to a plane that faces another of said plurality of ribbon-shaped coils,* claim 31, lines 4-5; and *the width substantially greater than the thickness and flat in a dimension facing another of said plurality of spirally-connected ribbon-shaped coils,* claim 32, lines 13-15. Independent claims 1 and 24 have been amended to reflect this feature (*said width being in a dimension facing an adjacent coil,* claim 1, line 9; claim 24, lines 10-11). Thus, the helical coils of the present invention are stacked against each other in the direction of the width, a feature not disclosed by Mohn et al.

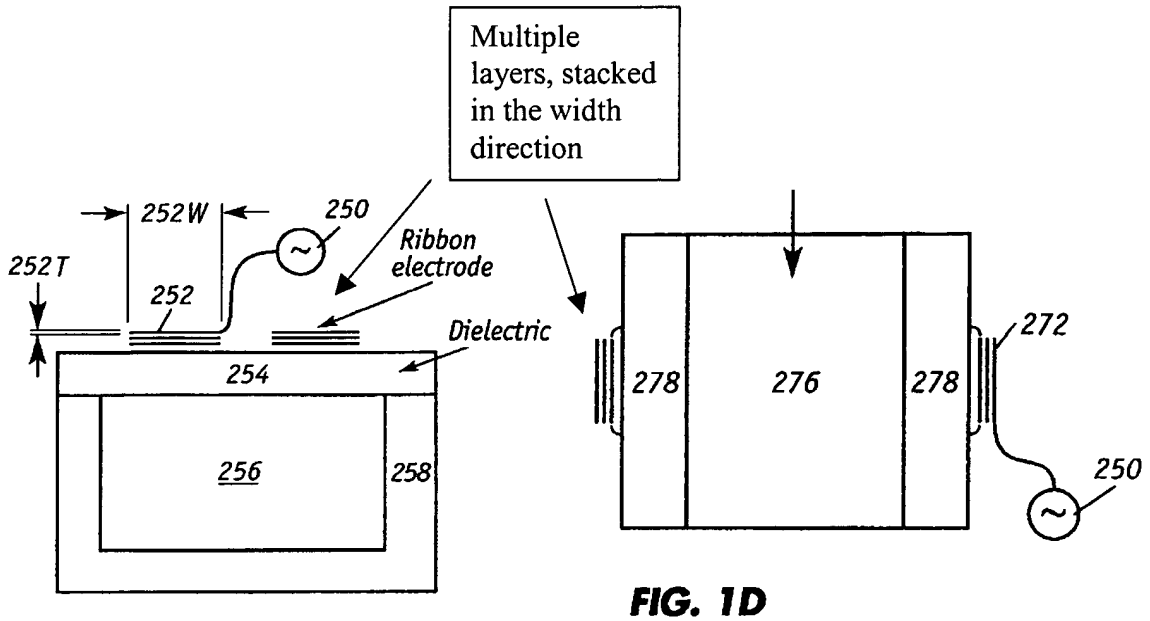

FIG. 1B

FIG. 1D

The present invention helical electrode configurations

With different stacking configurations (flattened or stacking along the coil thickness v. stacking along the coil width), the coils provide different plasma characteristics. The spreading of the coils of Mohn et al. is designed to *provide a much greater capacitive coupling from the coil antenna to the plasma in the chamber, due primarily to the increased surface area of each winding facing the plasma* (col. 3, lines 10-13). In contrast, the width stacking coils of the present invention preserves the capacitive coupling by keeping the surface area constant. Thus, by increasing the number of coils to increase the power, Mohn et al.'s design would significantly increase the coupling capacitance, while the coupling capacitance of the present invention's design remains essentially the same.

Accordingly, the combined cited arts fails to teach or suggest an element of independent claims 1, 24, 31 and 37 of the present invention, namely the stacking of the coils along the greater-dimension width. Claims 2-16, 21-23, 25-29, and 33-34 all depend, directly or indirectly, from these independent claims, and, thus, are also patentable over the cited art for at least the reason discussed above.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

Date: 5/3/, 2005

By: _____

Sheldon R. Meyer
Reg. No. 27,660

Customer No. 23910
FLIESLER MEYER LLP
Four Embarcadero Center, Fourth Floor
San Francisco, California 94111-4156
Telephone: (415) 362-3800